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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,889	03/31/2004	Robert Japp	EI-2-04-005	5016

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EXAMINER	
HARLAN, ROBERT D	
ART UNIT	**PAPER NUMBER**
1713	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/812,889	JAPP ET AL.	
	Examiner	Art Unit	
	Robert D. Harlan	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-17 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed by Applicant on 11/06/2006 has been entered.

2. Claims 11, 18 and 20 are cancelled.

Response to Amendment/Arguments

3. Applicant's amendment and arguments filed on 11/06/2006 have been fully considered and they are found persuasive.

4. The rejection of claims 1-10 and 13-20 under 35 U.S.C. 102(b) as being anticipated by Bindra et al., U.S. Patent No. 5,229,550 (hereinafter "Bindra") is withdrawn.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the

> United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-10 and 12-15 remain rejected under 35 U.S.C. 102(b) as being anticipated by Mao et al., U.S. Patent No. 7,164,197 (hereinafter "Mao"). Mao teach a dielectric composition comprising a cured resin material made of a thermosetting resin, silca (at least 50 wt.%) and a silane coupling agent wherein the resin has a high Tg and the dielectric composite material can have a dielectric constant less than about 3.5 and dielectric loss of less than about 0.004. See Mao, Abstract; col. 1, lines 32-36; col. 2, line 45-54; col. 3, lines 14-18; col. 5, lines 5-26; Table 2. Thus Mao anticipates claims 1-10 and 12-15.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United

> States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 16 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mao et al., U.S. Patent No. 7,164,197 (hereinafter "Mao").

10. Although Mao does not disclose the decomposition temperature within the range of from about 300 °C to 330 °C, based on other properties (Tg, dielectric constant, loss factor) the Examiner has a reasonable basis to believe that the decomposition temperature claimed in the present invention is inherent in the dielectric composition disclosed by Mao. Because the PTO has no means to conduct analytical experiments, the burden of proof is shifted to the Applicants to prove that

the properties are not inherent. See In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980); In re Best, 195 USPQ 430 (CCPA 1977); In re Napier, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995).

11. The claiming of a new use, new function or unknown property which is inherently present in the prior art doe not necessary make the claim patentable. In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). However, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. See In re Rijckaert, 9 F.3d. 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993)(reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessary due to optimization of conditions, not what was necessarily present in the prior art). "To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing describe in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" See In re Robertson, 169

F.3d 743, 745, 49 USPQ2d 1949, 1950-51. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

12. Even if the disclosure of Mao does not satisfy the requirements of 35 USC 102(e), it still would have been obvious to one of ordinary skill in the art to arrive at the claimed decomposition temperature, because it appears that the claimed dielectric composition are within the generic disclosure of Mao and a person of ordinary skill in the art would have expected all embodiment of Mao to have similar properties, including properties with in the decomposition temperature range. Applicant has not demonstrated that the differences, if any, between the claimed dielectric composition and the dielectric composition disclosed by Mao give rise to unexpected results. The evidence presented to rebut the prima facie case of obviousness must be commensurate in scope with the claims to which it pertains. See In re Dill and Scales, 202 USPQ 805 (CCPA 1979).

Claim Rejections - 35 USC § 112

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1, 5 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites "or the like as part thereof." This is indefinite because it leads to confusion over the intended scope of a claim. In other words, what is meant by "semi-continuous fibers or the like?" In claim 5, the term "high" is relative, thus, indefinite. In claim 9, "said particles" lack an antecedent basis.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao et al., U.S. Patent No. 7,164,197 (hereinafter "Mao") in view of Salensky et al U.S. Patent No. 4,976,813 (hereinafter "Salensky") and Papathomas, U.S. Patent Application Publication 2002/0105093 (hereinafter "Papathomas"). Mao does not teach the common additives of flexibilizer and flow-control additive, which are common in dielectric compositions. Salensky teaches in analogous art a solder mask composition comprising a flow control agent and Papathomas

teaches in analogous art an encapsulant composition comprising a flexibilizing agent. See Salensky, col. 2, lines 63-65; Papathomas, paragraphs [0007]–[0013]. In view of Salensky and Papathomas, one having an ordinary skill in the art would be motivated to modify Mao by adding a flexibilizer and flow-control additive to a dielectric composition because flexible layers are desirous when applied to circuit boards and Mao makes clear the good flow properties of the base resin (Mao, col. 4, line 24). Such modification would be obvious because one would expect that the use of dielectric layers as taught by Mao would be similarly useful and applicable to the compositions taught in Salensky and Papathomas.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert D. Harlan whose telephone number is (571) 272-1102. The examiner can normally be reached on Mon-Fri, 10 AM - 8 PM.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 273-1114. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert D. Harlan
Primary Examiner
Art Unit 1713

rdh